

## CLAIMS:

1. A testing apparatus for testing at least one component of a medical device and diagnosing problems associated therewith, the testing apparatus comprising:
  - 5 at least one testing station for receiving said at least one component and making an electrical and/or inductive connection thereto;
  - at least one testing circuit adapted to apply at least one test to said component and measure the response of the component to said test;
  - 10 a memory means for storing data indicative of the response to said test of at least one equivalent component that is known to be operational;
  - 15 a comparator means for comparing the response of said component to said test to said data and determining whether said response is at least substantially similar to said data; and
  - an output means for outputting a result of said comparison.
- 20 2. The testing apparatus of claim 1 wherein the medical device is a cochlear implant system and said at least one component that is to undergo testing comprises a cable and/or a transmitter coil adapted to be connected to an external speech processor component of said system.
- 25 3. The testing apparatus of claim 1 wherein the apparatus comprises a case having a first surface having said at least one testing station thereon.
4. The testing apparatus of claim 3 wherein the apparatus is adapted to test more than type of component.
- 25 5. The testing apparatus of claim 4 wherein the apparatus is capable of testing at least two different types of cable and has at least two testing stations for providing an electrical connection to said cables.
- 30 6. The testing apparatus of claim 5 wherein where there are two or cable testing stations, each station is adapted to test a different type of cable from that of the other cable test stations.

7. The testing apparatus of claim 6 wherein each cable testing station comprises a socket having a shape that is adapted to receive a plug of a particular cable design and no other, said socket allowing electrical connection to the cable under test.

5 8. The testing apparatus of claim 3 wherein the apparatus has a single coil testing station.

9. The testing apparatus of claim 8 wherein the coil testing apparatus comprises a planar area in the first surface of the case on which the tested coil can be placed.

10 10. The testing apparatus of claim 9 wherein the planar area has an indicia means provided thereon that provides an indication of where the tested coil should be placed to ensure an appropriate test of the tested coil is undertaken.

15 11. The testing apparatus of claim 10 wherein the indicia means comprises a pictorial representation of a transmitter coil.

12. The testing apparatus of claim 11 wherein the planar area has more than one unique indicia means provided thereon.

20 13. The testing apparatus of claim 11 wherein a magnet is positioned at or below the planar surface of the case, said magnet adapted to provide magnetic alignment with a magnet within a coil under test and so maintain the coil in the correct place for testing.

25 14. The testing apparatus of claim 9 wherein each tested coil has a cable extending therefrom that is also testable by the testing apparatus.

15. The testing apparatus of claim 9 wherein the apparatus is capable of sensing the type of coil, cable, or coil and cable combination that is under test and then access from 30 the memory means the appropriate stored data for use by the comparator means of the apparatus.

16. The testing apparatus of claim 1 wherein the apparatus further comprises a control means that controls the overall function of the apparatus.

17. The testing apparatus of claim 16 wherein the control means comprises a microcontroller.
18. The testing apparatus of claim 17 wherein the microcontroller further acts as the 5 memory means for the testing apparatus.
19. The testing apparatus of claim 17 wherein the microcontroller further comprises a microprocessor having an analogue to digital converter (ADC) to digitise the measurements representative of the tested component.
- 10 20. The testing apparatus of claim 17 wherein the measurements from said one or more testing circuits are in the form of current and voltage levels and said data indicative of the response of said equivalent operational component is in the form of voltage and current ranges associated with non-faulty cables and transmitter coils used 15 in cochlear implant systems.
21. The testing apparatus of claim 1 wherein the output means comprises one or more lights that are illuminated or turned off in response to the outcome of the test.
- 20 22. The testing apparatus of claim 21 wherein a light illuminates if the tested component passes the test and fails to illuminate if the tested component is inoperative or faulty.
23. The testing apparatus of claim 21 wherein the light is a light emitting diode 25 (LED).
24. A method of testing at least one component of a medical device and diagnosing problems associated therewith comprising the step of making an electrical and/or inductive connection between said component and at least one testing station of the 30 testing apparatus as defined in claim 1 and performing a test on said component.